

## SITE VICINITY

NTS

## SITE INFO

ADDRESS:	4100 CARILLON POINT KIRKLAND, WA 98033
OWNER:	CARILLON PROPERTIES W BLVD 3N0634
PARCEL/TAX #	1725059058
LEGAL:	POR GL 1 & 2 & BLKS F & G OF THE 2ND SUPL PLAT OF LK WN SH LDS TOW 2ND CL SHLDS ADJ ALL LY WLY OF W MGN LK WN BLVD—LESS POR N OF S LN OF N 1076.80 FT SD GL 1 & ITS WLY PROD — LESS POR THOF S OF LN BEG AT NXN 1902.66 FT S & PLW N LN GL 1 & W MGN LK WN BLVD TH S 03—09—13 E ALG W MGN 75 FT TO TPOB OF DESC LN TH N 88—35—53 W TO INNER HARBOR LN & TERMINUS THIS LN — LESS POR CONV BY REC 8907281497 AKA LOT B KK ALT LL #LL—91—50 REC 9104302101



## KEY PLAN

SCALE

NOTE:



## 2009 WASHINGTON STATE ENERGY CODE NOTES

1411.1: EQUIPMENT SHALL HAVE A MINIMUM PERFORMANCE AT THE SPECIFIED RATING CONDITIONS NOT LESS THAN THE VALUES SHOWN IN TABLES 14–1A THROUGH 14–1G.

1411.4: PACKAGED ELECTRICAL EQUIPMENT PROVIDING BOTH HEATING AND COOLING WITH A TOTAL COOLING CAPACITY GREATER THAN 20,000 BTU/H SHALL BE A HEAT PUMP.

1412.1: EACH SYSTEM SHALL BE PROVIDED WITH AT LEAST ONE TEMPERATURE CONTROL DEVICE. EACH ZONE SHALL BE CONTROLLED BY INDIVIDUAL THERMOSTATIC CONTROL RESPONDING TO TEMPERATURE WITHIN THE ZONE. AT A MINIMUM, EACH FLOOR OF A BUILDING SHALL BE CONSIDERED AS A SEPARATE ZONE.

1412.4: HVAC SYSTEMS SHALL BE EQUIPPED WITH AUTOMATIC CONTROLS CAPABLE OF ACCOMPLISHING A REDUCTION IN OF ENERGY USE THROUGH CONTROL SETBACK OR EQUIPMENT SHUTDOWN DURING PERIODS OF NON-USE OR ALTERNATE USE OF THE SPACES SERVED BY THE SYSTEM.

1412.4.1: OUTSIDE AIR INTAKES, EXHAUST OUTLETS AND RELIEF OUTLETS SERVING CONDITIONED SPACES SHALL BE EQUIPPED WITH MOTORIZED DAMPERS WHICH CLOSE AUTOMATICALLY WHEN THE SYSTEM IS OFF OR UPON POWER FAILURE. STAIR SHAFT AND ELEVATOR SHAFT SMOKE RELIEF DAMPERS SHALL REMAIN CLOSED UNTIL ACTIVATED BY SMOKE DETECTION SYSTEM.

DAMPERS INSTALLED TO COMPLY WITH THIS SECTION, INCLUDING DAMPER INTEGRAL TO HVAC EQUIPMENT, SHALL HAVE A MAXIMUM LEAKAGE REATE WHEN TESTED IN ACCORDANCE WITH AMCA STANDARD 500 OF:

- MOTORIZED DAMPERS: 10 CFM/SQ. FT. OF DAMPER AREA AT 1.0 IN. W.G.
- NONMOTORIZED DAMPERS: 20 CFM/ SQ. FT. OF DAMPER AREA AT 1.0 INCH W.G., EXCEPT THAT FOR NONMOTORIZED DAMPER SMALLER THAN 24 INCHES IN EITHER DIMENSION: 40 CFM/ SQ.FT. OF DAMPER AREA AT 1.0 INCH W.G.

1412.4.1.1: DAMPERS FOR OUTDOOR AIR SUPPLY AND EXHAUST SHALL AUTOMATICALLY SHUT WHEN THE SYSTEM IS NOT IN USE OR DURING BUILDING WARM-UP COOLDOWN AND SETBACK.

1412.5: UNITARY AIR COOLED HEAT PUMPS SHALL INCLUDE MICROPROCESSOR CONTROLS THAT MINIMIZE SUPPLEMENTAL HEAT USAGE DURING START-UP, SET-UP AND DEFROST CONDITIONS.

1412.7: EACH AIR SUPPLY OUTLET OR AIR OR WATER TERMINAL DEVICE SHALL HAVE MEANS FOR BALANCING, INCLUDING BUT NOT LIMITED TO, DAMPERS, TEMPERATURE AND PRESSURE TEST CONNECTIONS AND BALANCING VALVES.

1413.1: AIR ECONOMIZERS SHALL BE CAPABLE OF AUTOMATICALLY MODULATING OUTSIDE AND RETURN AIR DAMPERS TO PROVIDE 100% OF THE DESIGN SUPPLY AIR AS OUTSIDE AIR TO REDUCE OR ELIMINATE THE NEED FOR MECHANICAL COOLING.

1413.3: AIR AND WATER ECONOMIZERS SHALL BE CAPABLE OF PROVIDING PARTIAL COOLING EVEN WHEN ADDITIONAL MECHANICAL COOLING IS REQUIRED TO MEET THE COOLING LOAD.

1414.1: DUCTWORK (OTHER THAN ROUND OR FLAT OVAL) WHICH IS DESIGNED TO OPERATE AT PRESSURES ABOVE 1/2" WATER COLUMN STATIC PRESSURE SHALL BE SEALED.

1414.1.2: ALL LOW PRESSURE DUCT SYSTEMS SHALL BE SEALED TO A LEAKAGE RATE NOT TO EXCEED 6% OF THE FAN FLOW IF THE DUCT SYSTEM HAS MORE THAN 25% DUCT SURFACE AREA LOCATED IN ANY UNCONDITIONED SPACE. THE LEAKAGE RATE SHALL BE CONFIRMED THROUGH FIELD VERIFICATION AND DIAGNOSTIC TESTING, IN ACCORDANCE WITH SMACNA DUCT LEAKAGE TEST PROCEDURES – 1985.

1414.1.3: DUCT WORK DESIGNED TO OPERATE IN EXCESS OF 3" WATER COLUMN SHALL BE LEAK TESTED IN ACCORDANCE WITH SMACNA DUCT LEAKAGE TEST PROCEDURES – 1985.

1414.2: INSULATION OF SUPPLY, RETURN AND OUTSIDE AIR DUCTWORK SHALL MEET THE REQUIREMENTS OF CHAPTER 13, DAMPERS SHALL COMPLY WITH SECTION 1412.4.1 BE INSULATED IN ACCORDANCE WITH TABLE 14–5.

## SCOPE OF WORK:

- RELOCATE EXISTING 1 TON HEAT PUMP OUT OF NEW SERVER AREA
- DEMO EXISTING HYDRONIC PIPING TO RISER ON FLOOR.
- RELOCATE (1) SUPPLY DIFFUSER AND (1) THERMOSTAT.
- INSTALL (1) NEW 5 TON HEAT PUMP FOR SERVER ROOM.
- INSTALL NEW HYDRONIC PIPING FOR THE (2) HEAT PUMPS SERVING THE SERVER ROOM.
- INSTALL NEW STAND ALONE THERMOSTAT FOR NEW HEAT PUMP.

1416.2.1: BUILDINGS WHICH REQUIRE A COMMISSIONING PROCESS IN ACCORDANCE WITH WSEC SECTION 1416 AND SHALL INCLUDE:

- COMMISSIONING PLAN
- SYSTEMS TESTING AND BALANCING
- HVAC EQUIPMENT AND CONTROLS FUNCTIONAL TESTING
- SUPPORTING DOCUMENTATION IN THE FORM OF OPERATION AND MAINTENANCE AND RECORD DOCUMENTS
- COMMISSIONING REPORT.

1416.3.3: ALL HVAC SYSTEMS, EQUIPMENT AND CONTROLS SHALL BE TESTED TO ENSURE THAT CONTROL DEVICES, COMPONENTS, EQUIPMENT AND SYSTEMS ARE CALIBRATED, ADJUSTED AND OPERATE IN ACCORDANCE WITH SEQUENCES OF OPERATION PRESCRIBED IN THE CONSTRUCTION DOCUMENTS. WRITTEN PROCEDURES WHICH CLEARLY DESCRIBE THE INDIVIDUAL SYSTEMATIC TEST PROCEDURES, THE EXPECTED SYSTEMS' RESPONSE OR ACCEPTANCE CRITERIA FOR EACH PROCEDURE, THE ACTUAL RESPONSE OR FINDINGS, AND ANY PERTINENT DISCUSSION

1416.3.4.2: TRAINING OF THE MAINTENANCE STAFF FOR EACH EQUIPMENT TYPE AND/OR SYSTEM SHALL INCLUDE AS A MINIMUM:

- REVIEW OF SYSTEM DOCUMENTATION.
- HANDS-ON DEMONSTRATION OF ALL NORMAL MAINTENANCE PROCEDURES, NORMAL OPERATING MODES, AND ALL EMERGENCY SHUTDOWN AND START-UP PROCEDURES.
- TRAINING COMPLETION REPORT.

1416.3.5: THE COMMISSIONING REPORT SHALL BE COMPLETED AND PROVIDED TO THE OWNER. THE COMMISSIONING REPORT SHALL INCLUDE:

- COMPLETED FUNCTIONAL TEST FORMS INCLUDING MEASURABLE CRITERIA FOR TEST ACCEPTANCE.
- ISSUES LOG OF CORRECTED AND UNCORRECTED DEFICIENCIES WITH THE ANTICIPATED DATE OF CORRECTION.
- DEFERRED TESTS, WHICH CANNOT BE PERFORMED AT THE TIME OF REPORT PREPARATION, WITH ANTICIPATED DATE OF COMPLETION.
- RECORD OR PROGRESS AND COMPLETION OF OPERATOR TRAINING.
- COMPLETED COMMISSIONING COMPLIANCE FORM.

1416.4: A COMMISSIONING COMPLIANCE CHECKLIST SHALL BE SUBMITTED TO THE BUILDING OFFICIAL UPON SUBSTANTIAL COMPLETION OF THE BUILDING. THE CHECKLIST SHALL BE COMPLETED AND SIGNED BY THE BUILDING OWNER OR OWNER'S REPRESENTATIVE. COMPLETION OF THE COMMISSIONING COMPLIANCE CHECKLIST IS DEEMED TO SATISFY THIS REQUIREMENT.

1432.2.1: AIR SYSTEMS SERVING MULTIPLE ZONES SHALL HAVE CONTROLS TO AUTOMATICALLY RESET SUPPLY AIR TEMPERATURE BY REPRESENTATIVE BUILDING LOADS OR OUTSIDE AIR TEMPERATURE.

1435: SYSTEMS WHICH PROVIDE HEATING AND COOLING TO THE SAME ZONE SIMULTANEOUSLY ARE PROHIBITED EXCEPT AS NOTED IN SECTION 1435.

1437: THREE PHASE ELECTRIC MOTORS NOT INCLUDED IN EQUIPMENT EFFICIENCY RATINGS (I.E., EXHAUST FANS, PUMPS, COOLING TOWER FANS) SHALL MEET MINIMUM EFFICIENCY RATINGS LISTED IN WSEC TABLE 14–4A & B.

## GENERAL NOTES

PROTECT ALL DUCT OPENINGS OF FIRE RATED ASSEMBLIES PER I.B.C. 716.

INSTALL COMBINATION SMOKE FIRE DAMPERS AT ALL PENETRATIONS OF SHAFT ENCLOSURES PER I.B.C. SECTION 707.

INSTALL COMBINATION SMOKE FIRE DAMPERS AT ALL PENETRATIONS OF FIRE PARTITIONS, FIRE WALLS, FIRE BARRIERS AND SMOKE PARTITIONS PER I.B.C. CHAPTER 7.

ALL FIRE DAMPERS SHALL BE DYNAMIC TYPE, U.L. 555 RATED. ALL CEILING RADIATION DAMPERS SHALL BE U.L. 555C RATED. ALL COMBINATION SMOKE FIRE DAMPERS SHALL BE U.L. 555S RATED.

INSTALL SEISMIC BRACING FOR ALL DUCTWORK, EQUIPMENT AND PIPING PER I.B.C. REQUIREMENTS.

INSTALL ALL PIPING ON ROOM SIDE OF BUILDING INSULATION.

MECHANICAL DRAWINGS ARE DIAGRAMMATIC IN NATURE, AND DO NOT NECESSARILY REFLECT EVERY REQUIRED OFF-SET, FITTING OR ACCESSORY.

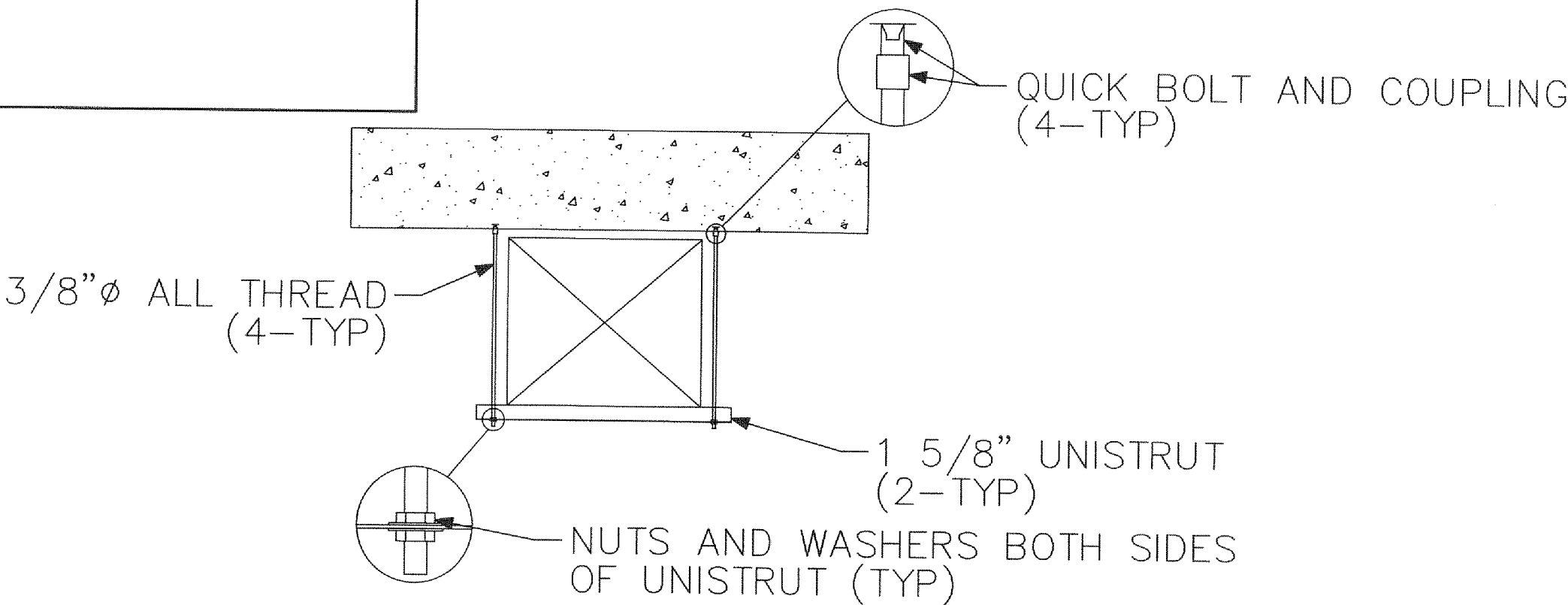
COORDINATE INSTALLATION OF MECHANICAL SYSTEMS WITH BUILDING STRUCTURE AND ALL OTHER TRADES.

THE MECHANICAL CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO BEGINNING WORK IN ORDER TO OBSERVE EXISTING CONDITIONS. VERIFY EXACT SIZE, LOCATION AND CONDITION OF ALL EXISTING SYSTEMS, DUCTS, PIPES, UTILITIES AND BUILDING STRUCTURE.

VERIFY VOLTAGES AT THE SITE PRIOR TO ORDERING ANY EQUIPMENT.

ALL MECHANICAL EQUIPMENT LOCATED IN CEILING CAVITIES THAT REQUIRE ELECTRICAL CONNECTION SHALL HAVE AN 8–1/2"x11" LAMINATED SIGN PERMANENTLY MOUNTED ON THE ELECTRICAL ENCLOSURES THAT INDICATES: "THIS EQUIPMENT MUST HAVE A MINIMUM ACCESS OF 36" (LESS THAN 460V) AND 42" (460V AND ABOVE)". NO TRADE SHALL BLOCK THIS SPACE EVEN IF SHOWN ON THE DRAWINGS. INSTALL SIGN PRIOR TO INSTALLATION OF EQUIPMENT.

ALL MECHANICAL EQUIPMENT THAT REQUIRES ACCESS FOR COIL PULL, FILTER CHANGE, MOTOR CHANGE, COMPRESSOR CHANGE, LUBRICATION, SHEAVE AND BELT CHANGE, FAN CHANGE OUT, ETC. SHALL HAVE AN 8–1/2"x11" LAMINATED SIGN PERMANENTLY MOUNTED ON THE EQUIPMENT ACCESS PANELS THAT INDICATES "THIS EQUIPMENT MUST HAVE A MINIMUM ACCESS OF 36". NO TRADE SHALL BLOCK THIS SPACE.



## HANGING DETAIL

NTS

**PSR Mechanical**  
Building Efficiency and Sustainability

A Service Logic Company

3132 N.E. 133 ST  
Seattle, Washington 98125-4423  
PO Box 27073  
Seattle, Washington 98185-1473  
(206) 367-2500  
Fax (206) 368-6866  
PSRHVMS024JT

**COVERSHEET AND LEGEND**  
**NEW DATA CENTER UNIT**  
**FOR CARILLON POINT**  
CARILLON POINT BUILDING 4000  
4100 CARILLON POINT  
KIRKLAND, WA 98033

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**General Notes**

1. 11"x17" SHEET SIZE NTS.

1	PERMIT SET	2/1/12
No.	Revision/Issue	Date

Drawn By <b>P. GOTO</b>
Date <b>1 FEBRUARY 2012</b>
Lead Tech
Engineered By
Date

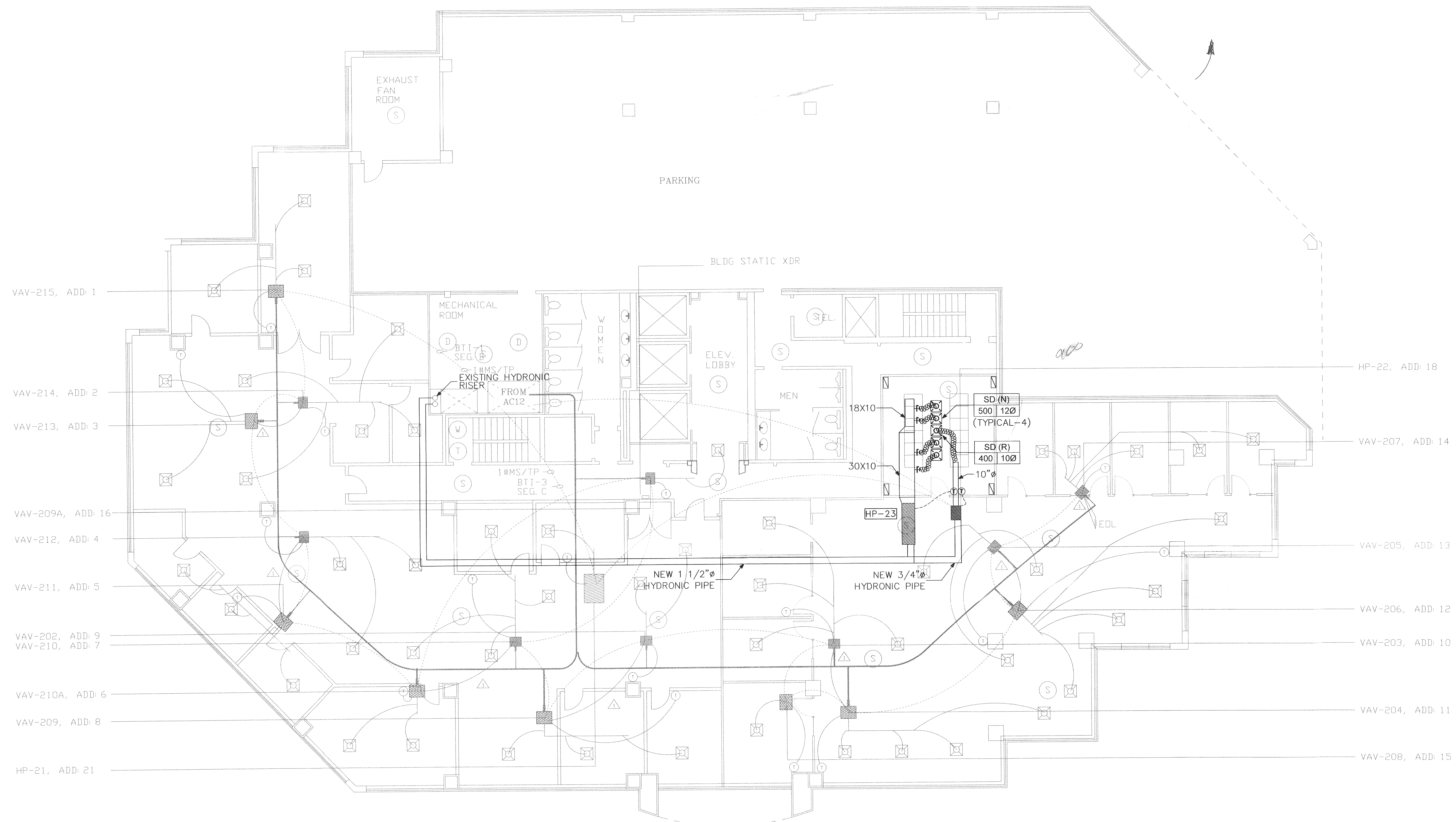
Project <b>P4700</b>	Sheet
Project Manager <b>L. LOCKRIDGE</b>	<b>M 0.0</b>
Scale <b>VARIES</b>	





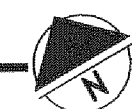
Project <b>P4700</b>	Sheet
Project Manager <b>L. LOCKRIDGE</b>	<b>M 1.0</b>
Scale <b>1/8"=1'0"</b>	

HYDRONIC HEAT PUMP EQUIPMENT SCHEDULE																		
MARK	LOCATION	CAPACITY		CONDITIONS			COMPRESSOR		ELECTRICAL			OPERATION		BASIS OF DESIGN		SERVES	REMARKS	
		TOTAL CLG: BTUH	SENSIBLE CLG: BTUH	EER	EWI: DEG F	LWT: DEG F	AMBIENT: DEG F	RLA	LRA	FLA FAN NO.1	VOLTAGE/PHASE	MOCP	MCA	WEIGHT: Lbs.	MANUFACTURER			MODEL
HP-23	CEILING	59,100	38,300	15.9	85	95	80	9.6	64	2.5	460/3	14.5	20	441	CLIMATE MASTER	TSH060	DATA CENTER	1,2,3
REMARKS		1) UNIT CONFORMS WITH WASHINGTON STATE ENERGY CODE 1433 EXCEPTION 9A. UNIT IS OVER MINIMUM CODE BY MORE THAN 15% AND SERVES A DEDICATED SERVER ROOM 2) 24 HOUR OPERATION 3) COOLING ONLY																



# CARILLON POINT BUILDING 4000 2ND FLOOR HVAC PLAN

1/8"=1'



**PSR Mechanical**  
Building Efficiency and Sustainability  
A Service Logic Company

3132 N.E. 133 ST  
Seattle, Washington 98125-4423  
PO Box 27073  
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PSRHVMS924JT

**2ND FLOOR HVAC PLAN  
NEW DATA CENTER UNIT  
FOR CARILLON POINT**  
CARILLON POINT, BUILDING 4000  
4100 CARILLON POINT  
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Project <b>P4700</b>	Sheet
Project Manager <b>L. LOCKRIDGE</b>	<b>M 2.0</b>
Scale <b>1/8"=1'0"</b>	

CITY OF KIRKLAND	
APPROVED FOR SUBMITTAL	
Type of Review	
Building	2/4/12
Planning	OK
Public work	

OK OK

CITY OF KIRKLAND	
BUILDING DEPARTMENT	
PERMIT #	MEC12-00019
ADDRESS	4000 CARILLON POINT
PLANS FOR	ALTERATION - COMMERCIAL
PROJECT	SERVICE N31W00MMBLDXXXFLZMFC
OWNER	CARILLON PROPERTIES
DATE SUBMITTED	02/02/2012
DATE APPROVED	2/1/12
APPROVED BY	SBarn

BLD. DEPT. FILE COPY

NOISE  
 7AM TO 8PM MON-FRI  
 NO WORK SUNDAY  
 PER K20 SEC. 11.02.01  
 Conditions must be approved in  
 writing by Planning Dept.